MD (x10– 3mm ² /s-1)	Myositis	1.31 (1.15– 1.47)	1.26 (1.05– 1.47)	0.087 (0.00– 0.17)	0.02 (–0.05, 0.09)	0.046	0.02
	Healthy	1.22 (0.69– 1.75)	1.23 (0.75– 1.72)				
Leg power (Watts)	Myositis	34.92 (–14.42, 84.25)	58.2 (–29.39, 145.77)	–25.05 (–43.71,– 6.39)	–47.53 (–92.14,– 12.92)	0.011	0.010
	Healthy	59.97 (18.88– 101.07)	105.72 (18.48– 192.96)				
Leg torque (N m)	Myositis	19.66 (–16.29, 55.62)	30.45 (–27.47, 88.36)	–18.01 (–31.7,– 4.33)	–33.36 (–56.12,– 10.57)	0.013	0.006
	Healthy	37.68 (6.8– 68.55)	63.80 (6.98– 120.63)				
		Mean	Mean difference (95% CI)	Significance (p value)			
Handgrip (kg)	Myositis	15.6 (–0.05, 31.25)	–18.74	<0.001			
	Healthy	34.34 (14.94–53.73)	(–25.4,–12.1)

Abstract AB1205 – Figure 1

a) Sagittal (localiser) image of the thigh used in the planning of the Vibe-Dixon imaging volume (shown by the box). b) Regions of interest were drawn corresponding to the individual muscles of the thigh. c) Stimulated echo acquisition mode-Echo planar imaging (STEAM-EPI) diffusion image

Conclusions: MRI based FF and DTI measurements and dynamometer measurements can detect muscle differences between myositis and healthy control groups. These differences are consistent with increased myosteatosis, increased oedema and the effects of muscle fibre plasticity. These measures show potential as novel imaging biomarkers in the diagnosis and management of myositis.

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Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2018-eular.3329

AB1205 PRECISION OF SERUM AND PLASMA TESTING IN ANTI-CARDIOLIPIN AND ANTI-B2 GLYCOPROTEIN-1 ANTIBODIES

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Background: Anti-cardiolipin (aCL) and anti-β2 glycoprotein-1 (β2GP1) antibody ELISA testing may be performed on serum, plasma, or both in accordance to the manufacturers' suggested protocols. There exists some variability in manufacturers' preference for serum or plasma. Various societal guidelines have published a preference for serum over plasma; however, there is scarcity of data assessing reproducibility between serum and plasma in aCL or β2GP1 testing.

Objectives: To determine reproducibility of aCL and β2GP1 testing between serum and plasma samples obtained in a routine clinical setting.

Methods: Patients with clinical serum draws for IgG/IgM aCL and β2GP1 antibodies were identified, and same-day, citrated plasma samples were obtained for repeat ELISA testing (QUANTA Lite, INOVA Diagnostics, San Diego, CA). Quantitative levels were determined for each isotype and further stratified into Negative (<15.0 GPL/MPL or U/mL), Weakly Positive (15.0–39.9 GPL/MPL or U/mL), or Positive (≥40.0 GPL/MPL or U/mL) reference categories. Differences were

compared using paired t-tests. Agreement between the reference categories were compared by kappa coefficients.

Results: Fifty patients were identified for study with 50 and 40 samples eligible for repeat aCL and β2GP1 plasma testing, respectively. Mean age was 49±18 years. 70% were female, 86% were Caucasian, 22% with systemic lupus erythematosus and 22% with antiphospholipid syndrome. As shown in Table 1, quantitative levels tended to be slightly higher in serum than plasma. Although a statistically significant difference was found for most of the antibodies tested, the difference between serum and plasma values were generally small. There was good agreement in reference category between serum and plasma. Kappa coefficients ranged from 0.70 to 1.00.

Abstract AB1205 – Table 1. – Reproducibility of anti-Cardiolipin and anti-β2 Glycoprotein-1 Testing in Serum versus Plasma

	Quantitative Levels		Agreement to Reference Category	
	N Samples	Mean Difference (sd) ¹	p-value	κ Coefficient (95% CI)
IgG aCL	50	0.4 (14.8) GPL	0.84	0.81 (0.64–0.98)
IgM aCL	50	3.3 (8.5) MPL	0.008	0.73 (0.56–0.91)
IgG	40	1.4 (4.2) U/mL	0.038	1.00 (1.00–1.00)
β2GP1				
IgM	40	4.6 (8.9) U/mL	0.002	0.74 (0.54–0.94)
β2GP1				

1: Serum-Plasma. **Abbreviations:** aCL=anti cardiolipin, β2GP1=anti-β2 glycoprotein 1, sd=standard deviation

Conclusions: There appears good reproducibility of IgG/IgM aCL and β2GP1 antibody ELISA results between serum and plasma.

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Acknowledgements: Special thanks to Susan Hartzler, Cory Blixt, Serena Navitskas, and Diane Meier.

Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2018-eular.5018

AB1206 DYNAMIC CONTRAST ENHANCED (DCE)-MRI IN RELATION TO INFLAMMATORY MARKERS IN SERUM AND JOINT FLUID: INITIAL DATA AND VALIDATION IN FOUR MOST COMMON KNEE ARTHRITIC DISEASES

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Background: Biomarker science has advanced to aid in distinguishing between different forms of arthritis: inflammatory arthritides such as rheumatoid arthritis (RA) and psoriatic arthritis (PsA) and osteoarthritis (OA). Biomarkers are also used to assess disease activity. Diagnostic serum biomarkers such as rheumatoid factor (RF) and cyclic-citrullinated peptide (CCP) and assays of disease activity such as C-reactive protein (CRP), and multi-biomarker assays have utility but lack complete sensitivity and specificity. Increasingly quantitative imaging biomarkers may fill an important gap in disease identification and assessment.

Objectives: 1) To investigate the association between imaging measures of inflammation in the synovium of the knee joint and systemic levels of CRP in patients with RA, PsA and OA. 2) Investigate how imaging and clinical markers correlate to IL-6 levels from joint fluid in different patient cohorts.

Methods: 38 patients with a flare of pain in the knee were recruited. 12 were diagnosed with RF positive (+) RA, 6 with RF negative (-) RA, 6 PsA, and 14 OA, according to ACR/EULAR criteria. CRP in blood and IL-6 levels from joint fluid were determined. Patients underwent MRI, including Dynamic Contrast Enhanced (DCE)-MRI exam prior to an ultrasound-guided arthrocentesis.

MRI were scored for synovitis¹ and DCE-MRI were quantified using Dynamic Enhanced MRI Quantification (DEMRIQ) method, extracting the volume of enhancing voxels (Nvoxel), Initial Rate of Enhancement (IRE), Maximum Enhancement (ME). Inflammation was quantified as IRExNvoxels and